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School-based primary prevention programs for eating disorders

Abstract

The primary purpose of this paper is to provide an extensive review of the literature and research related to anorexia nervosa, and to emphasize the importance of prevention programs in school settings and the role of school psychologists in the prevention and intervention process. Chapter two of this paper covers anorexia nervosa and the theories regarding its etiology, complications, co-morbidities, risk factors, and treatment. Because anorexia nervosa is a disorder which most frequently begins during adolescence, chapter three addresses the specific factors of adolescence that can lead to eating disorders.

Throughout the paper, there is an emphasis on the lack of prevention programs in place currently, particularly in schools. It is felt by countless researchers that prevention efforts should be increased, especially in school settings. Prevention programs that have been found effective are reviewed in chapter four of this paper. Chapter five concludes the paper with a discussion of the relevance and implications to the field of school psychology.

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This Research Paper by: SUZANNE D. HOLMES

Entitled: SCHOOL-BASED PRIMARY PREVENTION PROGRAMS FOR EATING DISORDERS

has been approved as meeting the
research paper requirement for the Degree of

Master of Arts in Education: General Educational Psychology

Radhi H. Al-Mabuk

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Psychology & Foundations

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An Abstract of a Research Paper

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In Partial Fulfillment

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Master of Arts in Education

Suzanne D. Holmes

University of Northern Iowa

August, 1998

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Table of Contents

CHAPTER 1- INTRODUCTION AND ORGANIZATION

Introduction

The desire to be thin is experienced by many women in today's American society. Television and magazine advertisements reinforce the image of an extremely thin woman as what is attractive. Everywhere we look, thin is in. Long gone are the days of hour-glass figures or curvaceous and healthy-looking models. Instead, the women of today's society are driven by the image of a five-foot, ten-inch model who weighs one hundred pounds. Women see these models as the ideal and strive to emulate them by exercising excessively and engaging in an ongoing battle with diets and their weight. The majority of women today see themselves as overweight, or fat, and are currently on some form of diet or weight control. Brumberg (1988) cited a study done in which 75 percent of the women surveyed considered themselves as fat, when in actuality, only 25 percent of them were overweight. With the media, society, and women in general, gauging their beauty and success by their body image, it is no surprise that the percentage of women with eating disorders is on a drastic rise.

The term "eating disorder" encompasses several disorders involving the manipulation of food. They "consist of severe disturbances in eating behavior, maladaptive and unhealthy efforts to control body weight and shape" (Wilson, Heffernan, & Black, 1996, 541). Among these are anorexia nervosa, bulimia nervosa, and binge-eating disorder. Although each one of these disorders affects a significant number of females in today's society, anorexia nervosa is the primary focus of this paper.

Extensive research (Kohn, 1998; Jaffe, 1998; Sesan, 1997; Corn, 1997; Dare, 1997; Chassler, 1997; Katzman, 1997) has been conducted concerning anorexia nervosa and other eating disorders. Researchers have focused primarily on the etiology and treatment of the disorder and paid considerably less attention to examining prevention.

This research has shown that the number of people diagnosed with anorexia nervosa has been increasing in recent years and primarily affects women (DSM IV, 1994). Wilson, et.al. cited a study conducted in 1993 which found the prevalence rate of anorexia nervosa to be between 0.2 percent and 0.8 percent and may be as high as 5 percent to 7 percent among higher socioeconomic groups (1996). Berk echoes these figures and states that 1 in 50 adolescent girls in the United States is affected (1998). This is a disorder which typically strikes in adolescence and affects every aspect of the individual's life.

Statement of the Problem

During the impressionable and unstable early adolescent years of a young woman's life there are countless sources of input and influence. This is a time when their bodies are changing and social relationships become central. Early adolescent women are especially vulnerable to the pressures of fitting in and looking socially appropriate which often leads them to attempt to modify their bodies to fit the "perfect body" standard. Adults in an adolescent's life should be setting a good example and by doing so, preventing eating disordered habits from emerging. Instead, our society is reinforcing the thoughts that may be emerging into an adolescent female's mind about being thin by advertising diet pills and work-out machines using overly thin models. Not enough is being done for these young girls to prevent them from becoming the victims of anorexia nervosa. This is a time in their lives when they are surrounded by adults for the majority of the time in their days. They spend eight hours a day in a facility which can help to prevent these disorders. Schools have prevention programs for alcohol, drugs, and even pregnancy, but so very few have any programs for eating disorders. Given the increasing number of individuals afflicted with this disorder, particularly females, it is imperative for schools to address this problem. It has become essential for schools to develop a systematic approach to preventing anorexia nervosa led by an interdisciplinary team which consists of health specialists, counselors,

and school psychologists. If professionals like these can be effective with prevention, then the individual will not progress further into the disorder where physicians and psychiatrists are needed.

Significance of the Problem

Anorexia nervosa is a disorder which affects more than the woman's figure. As the disorder progresses, the individual's body, mind, social and family relationships are adversely impacted. The anorectic individual's mind is greatly affected by the distortions of their body image. They see themselves as overweight and disgusting even when they are less than 70 percent of ideal body weight (Lovell, Williams, Mark, & Hill, 1998) Countless numbers of physical changes occur with the development of eating disorders. Some of these include the cessation of menstruation, fine dark hair development all over the body, brittle discolored nails, gastrointestinal and endocrine problems, and eventually, a deterioration of the entire functioning of the body including shrinking of the heart muscle and kidney failure (Berk, 1998). Anorectic individuals with unrealistic expectations about body change and dieting can suffer severe physiological damage as well as intense disappointment (Jaffe, 1998). Family functioning is also an area of concern with regards to an anorectic's lifestyle. As the individual becomes increasingly preoccupied with her eating habits, her social relationships with friends and family fall apart. The individual believes that they don't understand what she is going through, and consequently, she shuts herself off from social contact. (Horesh, Apter, Ishai, Danziger, Yardena, et.al, 1998)

These factors, as well as numerous others combine with the realization that effective treatment and curing of an anorectic individual doesn't occur in promising numbers are definite causes of concern. Relapse and death are a very real issue with regards to the outcome of this disorder. The prevalence rate is growing and the percentage of those who have recovered successfully is dangerously low. Because of these factors it becomes

evident why there needs to be a focus on the prevention of this disorder; stop the symptoms before they have a chance to progress. Then our females, especially young adolescent girls, will have a much better prognosis for survival as a healthy and happy individual.

Research on the prevention of eating disorders such as anorexia nervosa, although limited, has provided some valuable information to guide future studies. Neumark-Sztainer (1995) states the importance of developing prevention studies, "a number of authors have stated that in light of the high prevalence of eating disturbances and the low rates of success in treatment, more emphasis should be placed on prevention (71)". She goes on to discuss the varying levels of prevention, the target population, site for intervention, theoretical framework, and program content. She describes primary prevention as aiming "at reducing the incidence of a disorder through the reduction or elimination of those risk factors that cause or contribute to its occurrence". Secondary prevention "focuses on reducing the duration of a disorder through early identification and intervention in the initial stages of its development". Lastly, tertiary prevention is defined as aiming "to reduce the impairment that may result from an established disorder" (71).

With these prevention program descriptions in mind, primary prevention programs are best suited for the school setting. School programs can be developed to reduce the risk factors that may lead a young girl to become anorexic. In the primary stage of prevention, females still exhibit "normative" dieting practices and concern with their body and shape. This is where school programs could benefit most. In the secondary and tertiary levels, the adolescent female has begun to partake in unhealthy weight loss practices, high body dissatisfaction, and anorectic and bulimic behaviors which eventually progress into anorexia and bulimia. By the time a female reaches the secondary and tertiary levels, they should be referred to physicians and therapists for treatment. It is in the primary level that schools can help to prevent these disorders from developing.

Neumark-Sztainer (1995) reinforces this idea through several citations and quotations of other studies. She states that "further neglect of primary prevention may result in an even greater increase in eating disorders.... and a wider target population for educational interventions has also been suggested, including school teachers, school staff and parents, and school counselors in addition to adolescents" (77). As this doctor stated, schools need to become more actively involved in the primary prevention of eating disorders such as anorexia. There are programs in schools now, although limited, that are effective and productive in this fight, but it seems to be just the beginning.

Definition of Terms

There are several terms which need to be effectively defined before an exploration into the topic of anorexia nervosa can take place:

Eating Disorders: several disorders involving the manipulation of food and which consist of severe disturbances in eating behavior and unhealthy efforts to control body weight (Jaffe, 1998; Wilson, 1996).

Anorexia nervosa: a strong desire for a thin body and an intense fear of gaining weight or being fat (Jaffe, 1998; Bryant-Waugh, Hankins, Shafrin, Lask et al., 1996; Eisele, Hertsgaard, & Light, 1986; Halmi, 1987). Anorexia Nervosa is defined extensively in the Diagnostic and Statistical Manual of Mental Disorders, Fourth Edition (DSM IV), with several criteria that must be met in order for an individual to be diagnosed with the disorder. (See chapter 2)

Body image: the conception of and attitude toward their physical appearance. In anorectic individuals this is extremely distorted (Berk, 1998).

Amenorrhea: the absence of at least three consecutive menstrual cycles (Wilson et al., 1996)

Organization of Paper

This paper will describe and evaluate some school-based primary prevention programs for anorexia nervosa. Initially, there will be an extensive exploration of anorexia nervosa. Chapter two will address the history, definition, and assessment of this disorder. Prevalence, progression, characteristics, and treatment will also be discussed. The third chapter will explore the area of adolescence and the developmental and social changes that take place which could contribute to the development of this disorder. The fourth chapter will be the main focus of this paper; it will briefly review several of the programs that have been implemented and evaluated up to this point in time. Then it will describe, evaluate, and discuss one school-based primary prevention program for adolescents, in the United States, and its affects on the prevention of anorexia nervosa. The final chapter will synthesize the topics presented in earlier chapters and offer implications to helping professionals, especially school psychologists.

CHAPTER 2-ANOREXIA NERVOSA

This chapter will discuss the psychiatric disorder of anorexia nervosa and its many factors. A brief history of the disorder will begin the chapter and will be followed by a discussion of the assessment models and theories of the disorder. Symptoms, complications/co-morbidities, risk factors, and treatment will also be focused upon. The chapter concludes with the consequences and treatment of the disorder.

Definition of and Criteria for Anorexia Nervosa

DSM-IV Criteria for Anorexia Nervosa

A) Refusal to maintain body weight at or above a minimally normal weight for age and height (e.g. weight loss leading to maintenance of body weight less than 85 percent of that expected; or failure to make expected weight gain during period of growth, leading to body weight less than 85 percent of that expected.)

B) Intense fear of gaining weight or becoming fat, even though under weight.

C) Disturbance in the way in which one's body weight or shape is experienced, undue influence of body weight or shape on self-evaluation, or denial of the seriousness of the current low body weight.

D) In postmenarcheal females, amenorrhea, i.e. the absence of at least three consecutive menstrual cycles. (A woman is considered to have amenorrhea if her periods occur only following hormone, e.g. estrogen, administration.)

Specify type:

Restricting Type: during the current episode of Anorexia Nervosa, the person has not regularly engaged in binge-eating or purging behavior (i.e., self-induced vomiting or the misuse of laxatives, diuretics, or enemas)

Binge-Eating/Purging Type: during the current episode of Anorexia Nervosa, the person has regularly engaged in binge-eating or purging behavior (i.e., self-induced vomiting or the misuse of laxatives, diuretics, or enemas) (DSM IV, APA, 1994, 544-5). The World Health Organization has provided diagnostic criteria for anorexia nervosa through the International Classification of Disease, 10th edition.

ICD-10 Diagnostic Guidelines for Anorexia Nervosa

a) Body Weight is maintained at least 15 percent below that expected (either lost or never achieved), or Quetelet's body mass index is 17.5 or less. Prepubertal patients may show failure to make the expected weight gain during the period of growth.

b) The weight loss is self-induced by avoidance of "fattening foods." One or more of the following may also be present: self-induced vomiting; self-induced purging; excessive exercise; use of appetite suppressants and/or diuretics.

c) There is body-image distortion in the form of a specific psychopathology whereby a dread of fatness persists as an intrusive, overvalued idea and the patient imposes a low weight threshold of himself or herself.

d) A widespread endocrine disorder involving the hypothalamic-pituitary-gonadal axis is manifest in women as amenorrhea and in men as a loss of sexual interest and potency. (An apparent exception is the persistence of vaginal bleeds in anorexic women who are receiving replacement hormonal therapy, most commonly taken as a contraceptive pill.) There may also be elevated levels of growth hormone, raised levels of cortisol, changes in the peripheral metabolism of the thyroid hormone, and abnormalities of insulin secretion.

e) If onset is prepubertal, the sequence of pubertal events is delayed or even arrested (growth ceases; in girls the breasts do not develop and there is a primary amenorrhea; in boys the genitals remain juvenile). With recovery, puberty is often completed normally, but the menarche is late. (World Health Organization, 1992, 117)

In 1994, the American Psychiatric Association became the first to subdivide "anorexia nervosa on the basis of the presence of binge eating and purging into a binge-eating/purging type in which there are regular episodes of binge eating or purging and a restricting type in which binge eating and purging do not occur regularly (Wilson et al., 543)".

Anorexia nervosa can have a profound affect on the individual's physical health, "along with the lack of menstrual periods, there may be abdominal pain, constipation, low or high levels of energy, low blood pressure (with symptoms of dizziness), and slowing of the heart rate. In its most severe forms, hospitalization may be required, and death is possible through either medical complications or suicide" (Kerwin & Berkowitz, 1996, 316).

Historical Background

Although the prevalence of anorexia nervosa has increased dramatically in recent decades, it is not a disorder which is new to our culture and society. Anorexia nervosa was mentioned in the medical literature as early as the seventeenth century when, in 1694, Dr. Richard Morton wrote about young, wealthy females who were victims of self-starvation. In the eighteenth century anorexia nervosa was confused with tuberculosis, and in the nineteenth century it was diagnosed as a form of hysteria, a psychological illness (Romeo, 1986). The disorder was first given its medical label of "anorexia" by Ernest Laségue in France in 1873 and by Sir William Gull in England in 1874 (Kaplan, 1993; Brumberg, 1988; Romeo, 1986). Sir William Gull emphasized the mental state that accompanied the

loss of appetite and therefore labeled the disorder anorexia nervosa. Laségue, however, believed that the etiology of the disorder was hysterical and gave it the label of anorexia hystérique.

In the early part of the 20th century, anorexia nervosa was considered to be the result of a pituitary disturbance, and therefore, an organic disease. In 1914, Dr. Simmond, an endocrinologist stated that anorexia nervosa was a result of a destructive lesion of the pituitary gland. For the next 25 years, it was diagnosed as Simmond's disease, a primary endocrine disorder (Romeo, 1986). Today, anorexia nervosa is once again classified as a mental illness, specifically, an eating disorder.

Joan Jacobs Brumberg (1998) stated that anorexia emerged as an identifiable disosrder in the Victorian Era due to the new authority of medicine and also changes in the larger society that impacted young women in particular cultures. She continues with "anorexia nervosa emerged during the throes of industrial capitalist development and was nurtured by central aspects of bourgeois life: intimacy and material comfort, parental love and expectation, the division of labor, and popular ideas about gender and class" (1988, 3). Joseph Kaplan (1993) also addressed the topic of when this disorder first came about. He stated that:

> medical historians tell us that prior to the late nineteenth century there were only sporadic, isolated descriptions of illnesses resembling anorexia: in the third century A.D. a Buddha in search of enlightenment; in the eleventh century a young prince suffering from melancholia; in 1613 a French girl who fasted for three years; in 1689 two cases described as a consumption of mental origins with emaciation, amenorrhea, constipation, over activity, loss of appetite; in the late eighteenth century several cases in England, and in France the case of a girl that ended in death (255).

The history and medical description of anorexia are complex and evolving. From the time the disorder was first diagnosed, in the 1870's, there has been a focus on more than just the patient, alone. The family of the anorectic female has been highlighted throughout history as well. Historians have discussed the distortion of both the individual

and the family with regards to the disorder. Also known throughout the history of the disease is the fact that the patient suffering from this disorder does not seem to suffer from the loss of appetite as first assumed. In 1895 Gilles de la Tourette "was the first to call attention to the fact that the patient did not suffer from lass of appetite. Refusal to eat and a distorted perception of her body, he claimed, were the hallmarks of the disease" (Kaplan, 1993, 255).

For a short time period, between 1915 and 1935, anorexia, and nearly every other disease of subnutrition, was attributed to Simmonds' disease, a pituitary malfunction. Other than this time period most experts studying anorexia nervosa have been aware that "the physical emaciation was initiated, maintained, and then escalated to the level of starvation by psychological forces" (Kaplan, 1993, 256). This was once a disorder which affected the upper and upper-middle class adolescents, but the disease has spread across class and ethnic lines wherever upwardly mobile, ambitious families may be found. Anorexia nervosa is clearly a disorder that affects mostly women of all backgrounds, and which has been somewhat of an enigma to researchers throughout history. Experts in the field have depended on several theories and models to begin to understand the disorder which affects millions every year. Thus, it is to theories of anorexia nervosa that we turn next.

Theoretical Models

The assessment of anorexia nervosa stems from the theoretical basis from which the diagnostician is operating. There have been several different models that researchers have used to attempt to understand this disorder. Although there is little consensus on what causes anorexia nervosa, current explanations generally seem to fall into one of four categories: biological, psychological, cognitive-behavioral, and cultural. Foreyt and Mikhail state that "virtually all current models of anorexia nervosa and bulimia nervosa

begin with the most salient features of these disorders. With anorexia nervosa, these include the time of onset, female gender, weight loss, the disturbed body image, the desire to be thin, and the refusal to maintain adequate or moderate/regular dietary intake" (1997, 689). No one model, however, explains the current state and prevalence of this disorder, however, or the place of anorexia nervosa in the long history of female food refusal. Part of the difficulty related to anorexia is the fact that it is a multidetermined disorder that depends on the individual's biologic vulnerability, psychological predisposition, family, and the social climate (Horesh, 1998; Brumberg, 1988).

Brumberg, Foreyt, and Mikhail have reviewed, examined, and summarized the theoretical models for anorexia nervosa in comprehensive works. Because of their extensive work in this area, much of their information will be referred to here. Brumberg discusses the biological model in great detail, and Foreyt and Mikhail add several details which are important to note.

Biological Model

Advocates of the biological model, otherwise referred to as the biomedical model, assume that "aberrations of human behavior can be explained by deviance or disorder in biological processes. They maintain that anorexia nervosa is generated by an organic cause, what some call somatogenesis" (Brumberg, 1988, 25). The literature shows that since the 1970's number of endocrinological and neurological abnormalities that have been listed as possible causes of this disorder. The list of causes consists of: hormonal imbalance, dysfunction in the satiety center of the hypothalamus, lesions in the limbic system of the brain, an irregular output of vasopressin and gonadotropin, and over secretion of CRH which is a corticotrophin-releasing hormone. (Kohn, 1998; Brumberg, 1988).

Despite all of these hypotheses, there is still no definitive answer to the biological causes of anorexia nervosa. An extensive amount of research in this area has led to one conclusion, however. "If anorexia nervosa is associated with an organic abnormality, the hypothalamus is the most plausible site for the origin of the dysfunction. The hypothalamus controls or modifies a variety of homeostatic processes including respiration, circulation, food and water intake, digestion, metabolism, and body temperature" (Brumberg, 1988, 26). Even with this information the etiology, or cause, of anorexia nervosa is still unclear. William Hammond gives three possibilities: "It may be that starvation damages the hypothalamus, that psychic stress somehow interferes with hypothalamic function, or that the manifestations of anorexia nervosa, including the psychological aberrations, are relatively independent expressions of a primary hypothalamic defect of unknown etiology" (1879, 71).

More knowledge is needed about the biological basis and causes of anorexia nervosa. The main criticism of this model is that of the age old question, which came first, the chicken or the egg? Foreyt and Mikhail (1997) questioned if these hormonal and endocrine abnormalities at the basis of the model are present before starvation begins, or are they secondary to the starvation process. Are these women anorexic because of hormonal imbalances and dysfunctioning hypothalamus glands, or are these symptoms due to the starvation that is occurring in the anorexic individual's life? Research (e.g. Kohn, 1998; Sokol, 1997; Weakley, 1997) has shown that there are somatic components to this disorder, but has yet to establish a common biological characteristic of the anorexic population that is unambiguously a cause and not a consequence of extreme weight loss and nutritional deprivation.

Other limitations of this model are that the biological/biomedical model fails to explain why more young women than young men are affected by the biological disturbances of anorexia nervosa. If these biological characteristics are, indeed, causes of

this disorder, why are women affected at such an extremely higher prevalence rate than men? The last two criticisms of this model are such that it doesn't address important social characteristics of the anorexic population, such as its occurrence mostly in upper class groups of women, and also its failure to explain the question of incidence. Why are there so many cases of anorexia now, at this point in time?

It is clear that if the biological model for anorexia was conclusive and somatogenesis was determined, then our view of an anorexic individual would be that of a person who had no control. We would have to believe, undoubtedly, that the disease was "involuntary, perhaps even inheritable, and best treated by purely medical rather than psychotherapeutic techniques" (Brumberg, 1988,25). Because of the inconclusiveness of this model and the questions that it leaves unanswered, other models have been developed to aid in the understanding of this disorder. We examine the psychological models next.

Psychological Models

There are three basic psychological models of anorexia nervosa: psychoanalysis, family systems theory, and social psychology. In the first two, in particular, anorexia nervosa is seen as a pathological response to the developmental crisis of adolescence. According to these models, refusal of food is understood as an expression of the adolescent's struggle over autonomy, individuation, and sexual development. Kaplan states that "anorexia nervosa is a pathology of the ordinary issues of adolescent passage" (1993, 261). The majority of the information regarding the psychological models for anorexia nervosa lies within the psychoanalytic framework, therefore, a brief over-view of familysystems theory and social psychology will be given and a more extensive amount of information given with regards to the psychoanayltic perspective.

The first two areas of the psychological model, family systems theory and social psychology, are best understood in reference to therapy focus and interventions. In the

1980's a great deal of attention was being paid to values and patterns of interaction within anorexic families. Salvador Minuchin (1988), family systems theorist, states that certain kinds of family environments encourage passive methods of defiance, for example, not eating, and make it difficult for members to assert their individuality.

Research in the area of personality and social psychology proposes interesting approaches to assessing anorexia nervosa as well. Much of the research done here has focused on developing predictive tests for eating disorders such as the Eating Attitudes Test (EAT) and the Eating Disorders Inventory (EDI). Tests such as these have led to the proposal that anorexic individuals have an actual cognitive problem with body imaging. Others in this field, using this model, regard the anorectic as a young woman in conflict with the dominant male values of her society or that anorectics are overly socialized to the feminine role. (Liebman, Minuchin, & Baker, 1975).

As stated earlier, much of the current psychotherapeutic thinking about anorexia nervosa takes its basis from psychoanalysis, specifically with regards to Sigmund Freud and, more recently, Hilda Bruch. Freud regarded the anorectic as a girl who feared adult woman and heterosexuality. In 1895 he wrote: "The famous anorexia nervosa of young girls seems to me (on careful observation) to be a melancholia where sexuality is undeveloped" (Strachey, 1966, 106). In Freudian terms, eating, like all appetites, is an expression of libido or sexual drive.

Hilda Bruch continued the thoughts of Freud; she considered the contemporary anorectic unprepared to cope with the psychological and social consequences of adulthood as well as sexuality. Bruch summarizes her thoughts as follows:

> Because of the anorectic's paralyzing sense of ineffectiveness and anxiety about her identity, she opts, furiously, for control of her body...she makes her body a stand-in for the life that she cannot control. She experiences a disturbance of delusional proportions with respect to her body image, and she eats in a peculiar and disorganized fashion. By refusing food, the anorectic slows the process of sexual maturation: her menses stop and her body remains child-like. The preoccupation with controlling her appetite directs the young woman inward so that she becomes

> increasingly estranged from the outside world. She lives a bizarre life, obsessed with thoughts of food, while struggling with her parents over her right not to eat (1988, 28).

Kim Chernin (1985), a psychoanalytically inspired feminist writer argues that eating disorders are rooted in the problems of mother-daughter separation and identity. She goes on to say that "the hunger knot experienced by so many modern daughters represents issues of failed female development, fear, and the daughter's guilt over her desire to surpass her mother" (29). Other discussions of anorexia nervosa by psychiatrists suggest that anorectics may have mothers who have a distinct psychological profile. These mothers may be frustrated, depressed, perfectionistic, passive and dependent, and unable to mirror the child. This means that the mother is unable to see the daughter as an independent being. Consequently, a conflict emerges within the child, between her invisible sense of self and her visible body. By refusing to eat and losing weight, she is desperately trying to appeal to her mother to make emotional contact with the unseen person. (Spignesi, 1983; Selvini-Palazzoli, 1970; Brumberg, 1988).

As with the biological model, no single psychological model provides a full explanation of anorexia nervosa. This model, also, is not perfect, with its weak points. It fails to provide an adequate answer to the same questions as the biological model: social address, changing incidence, and gender. After reviewing the psychological model, an individual is still left with the question of why anorexia is an "epidemic", with the majority of individuals diagnosed with the disorder in a specific class and society? This question and other aspects of the disease are addressed in the next section.

Cognitive Models

The third theoretical model for the study of anorexia nervosa is the cognitive-behavioral model. Foreyt and Mikhail noted that "The cognitive-behavioral approach emphasizes the analysis of functional relationships among antecedents, consequences, and

individual behaviors as the proper units for studying, eventually understanding, and changing the behaviors of anorexic and bulimic patients" (1997, 690). This model is used primarily for the development of behavioral and cognitive-behavioral treatment programs rather than examining the pathogenic social learning experiences. Bowers, Evans, and VanCleve (1996) stated that the basis of the cognitive-behavioral model comes from the idea that "extremely negative thoughts and feelings about weight and weight gain become associated with the consumption of food over time, such that it becomes reinforcing to refuse food in order to avoid these negative thoughts and feelings. Foreyt and Mikhail discuss the works of Crisp in the support of this model, also:

> Crisp conceptualizes anorexic patients' symptomatic behavior as an avoidance response whereby psychosexual maturity is avoided or reversed. The patients' behavior not only helps them to avoid negative thought, feelings, and fears, but also provides opportunities for much cognitive self-reinforcement through the sense of mastery, virtue, and self-control that it provides (1997, 691).

To summarize, treatment providers examine the entire progression of the disorder to determine what the anorectic's behavior is providing or relieving for the individual. They determine what the individual's cognitive thought processes are regarding the disorder and then evaluates the behavior resulting from these thoughts.

Weaknesses of this approach lie in the fact that it does not provide any information regarding the etiology of the disorder. Its main goal is to provide treatment for individuals who have been diagnosed. It does examine many domains such as interpersonal and affective, that are important, but in order to fully understand this disorder, research needs to determine what factors, if any, are common to all individuals. By identifying risk factors, prevention programs can be developed to combat the increasing prevalence rates.

Cultural Model

The final model explained here is the cultural model which is the most popular and widely promoted model of anorexia nervosa. This model is based on the idea that anorexia

nervosa among females is socially induced. Through television, sex-role expectations, and numerous other venues women are constantly bombarded by the message to be and to get thin. According to this model slimness in the chief attribute of female beauty. The incessant drumbeat of modern dieting, the erotic veneration of sylphlike women such as Twiggy and the demands of a fashion ethic that stresses youth and androgyny rather than the contours of an adult female body are cited as chief cultural factors contributing to anorexia nervosa among women (Brumberg, 1988).

The cultural model was the first to address why anorexia nervosa, as well as other eating disorders, are primarily a female problem. It also addresses the issues that were left unanswered in the previous models, why it is a class issue and an epidemic. Several studies and surveys have been conducted with adolescent females. In San Francisco 80 percent of girls in the fourth grade are dieting, according to researchers at the University of California. Washington, D.C. had similar results, showing that in three private girls' schools 53 percent said they were unhappy with their bodies by age 13 and among those 18 or older, 78 percent were dissatisfied. (Stewart & Brooks, 1993; MacKenzie, 1995).

In a similar fashion, Glamour Magazine conducted a survey which confirmed that female self-esteem and happiness are tied to weight, particularly in the adolescent and young adult years. A 1984 study also demonstrates that college women make weight a central feature of their cognitive schema. They consistently evaluate other women, themselves, and their own achievements in terms of weight (MacKenzie, 1986; Striegal-Moore, McAvay, & Rodin, 1986).

In reference to the issue of anorexia nervosa being primarily a class issue, many studies have been done to support the cultural model. Even the widely quoted statement by the Duchess of Windsor reflects how important thin is in the upper classes, "A woman can never be too rich or too thin" (Christopher, 1997; Mash & Terdal, 1997; Vitousek, 1996). A study conducted by Stanford University psychologist Sanford M. Dornbusch revealed a

positive correlation between gender, social class, and desire to be thin. He controlled for the actual level of fatness and in a nationwide sample his data showed that adolescent females in higher social classes wanted to be thinner more often than those in the lower classes. Because it is assumed that body preference differs among girls according to social class, those from middle-class and upper-class families are the most likely to be dissatisfied and troubled by the normal development associated with sexual maturation. (Dornbusch et.al, 1984).

Brumberg states that "according to the cultural model, these class-specific ideas about body preference pervade the larger society and do enormous harm. The modern visual media (television, films, video, magazines, and particularly advertising) fuel the preoccupation with female thinness and serve as the primary stimulus for anorexia nervosa" (1988, 32). So much of our society focuses on external qualities of women, and therefore, very few women above a size six are seen on television or in the movies who actually have intelligence or sex appeal. This sends a very powerful message to young women: you need to be thin, pretty, passive and powerless. Herein lies the cause of anorexia nervosa, according to the cultural model.

Proponents of this model do not suggest the behaviors of anorectic females are pathological. Instead, they maintain that a misogynistic society that demeans women by devaluing female experience and women's values, by objectifying their bodies; and by discrediting vast areas of women's past and present achievements is the culprit-cause of anorexia nervosa.

This model is very effective in addressing the gender and class issues of anorexia, but it also has its limitations. With the causes and underlying factors that the cultural model presents for the development of anorexia nervosa it seems that all women in the middle and upper classes should be developing this disorder. This model doesn't address why the

disorder only affects some of the women in these classes, and if all are being subjected to the mistreatment of the media and society, why aren't all women affected?

After examination of the four theoretical models of anorexia nervosa it is clear that there is no one, single model which completely and effectively addresses this topic. Each model has its strengths and limitations. Thus, researchers need to take a multidimensional viewpoint of anorexia nervosa. Since no singular cause has been determined for this disorder, individuals studying this area will do well to be aware of all models.

Symptoms

Symptoms of anorexia nervosa are described and outlined in great detail in many studies (e.g. Mash & Terdal, 1997; Wilson et al., 1996; Abraham, 1987). In this section the list of symptoms delineated by Romeo (1986) will be focused on in the order of their progression of the disorder. The initial stages and symptoms will be addressed first, and then a progression of the disorder will follow.

The first symptom of an individual with anorexia nervosa, regardless of their pre-anorectic weight, is a decision to control their diet due to their feeling of being fat. Many anorectics report starting their dieting behavior following a stressful event. They begin by reducing the size of their meals and eliminating all carbohydrates, such as deserts, cakes and cookies, from their diet. Then they proceed to eliminate all high fat foods from their diet and dieting becomes a researched topic, often looking into several different diets and their effectiveness. At this stage in the disorder, the anorectic experiences hunger pains and will want to give in; she resists these moments of temptation and stays on her diet.

A major symptom of this disorder is amenorrhea, the cessation of menstruation. At some point in time during the progression of anorexia nervosa, all individuals will experience the cessation of their menstruation. This time will vary for each individual

patient, some experiencing it before weight loss, and others after. Regardless of when it happens, the individual expresses no concern over the fact.

Anorectic individuals are extremely energetic and will engage in physical activities during the initial stage of the illness. This hyperactivity appears to be a combination of involuntary and voluntary behavior; it may be due to an involuntary discharge of internal tension or used as a conscious method of weight control. The anorectic individual knows that by exercising excessively she will burn calories and therefore performs the exercises in a compulsive and ritualistic manner. The anorectic considers exercising to be an essential part of her weight control plan and will increase the activity on a regular basis.

The next step in this progression is the recognition from family and friends that the anorectic individual has lost weight and looks good. The individual then becomes confident about her appearance and believes that if she continues with her diet and loses just a few more pounds, she will look even better. By this time she has learned that eating even a small amount more than planned will result in weight gain and that if she continues with the plan she's on, she will only maintain her weight. Therefore, the anorectic woman realizes that she must lower her total food intake even further to continue to lose weight.

During the initial stages of the illness an anorectic individual's behavior is difficult to distinguish from normal dieting behavior. At some unidentifiable point in the illness, however, her thinking becomes irrational and her dieting behavior becomes pathological. She then becomes intensely afraid of gaining weight because she associates weight gain with being fat, gross, and obese. Many anorectics are not able to remember when this shift actually occurs, but after this time they are very aware of the fear to gain weight. The anorectic rarely expresses this fear openly, however, and instead will feel extreme anxiety when she eats. To control the anxiety she will begin to restrict her diet even more and her hunger pains will intensify. This is the point when hunger pains are attributed to success

and whenever they are felt, the individual feels skinny and proud of her ability to lose weight.

As the disorder progresses, the anorectic develops an intense preoccupation with food due to starvation and hunger. Her whole life now revolves around food and she becomes an expert in calorie counting. She will continue to be hyperactive, to exercise excessively, and be obsessed with the damage of eating even a few bites or crumbs. Immediately after eating she will weigh herself. As the symptoms worsen, the anorectic may engage in bizarre, ritualistic eating behaviors. For example, she may chew on one piece of food for hours or, to stretch her food, cut it into tiny pieces.

Later in the disorder, she will report that she no longer feels hunger pains and at this point she truly becomes "anorexic" because she has destroyed her body's internal signals with regard to appetite. She has no desire to eat at this point because food tastes bad to her. Her whole digestive system is disorganized, she feels bloated and notices her stomach protruding. At this stage she can no longer continue the hyperactive behavior due to lack of energy. She still wants to exercise, however, because she still overestimates her body size. In the final stages, the anorectic withdraws from family and friends and becomes uncomfortable whenever she eats in the presence of others. She will eventually refuse to eat around anyone because of questions about her behavior. She will no longer socialize with friends and her body will continue to deteriorate. Her abnormal eating patterns will have finally taken their toll.

There are two behaviors that certain types of anorectics will engage in, bingeing, vomiting, and purging. Bingeing represents a giving in to the desire to eat and could be in a varying amount of food. This bingeing represents a loss of control over their eating behavior and it frightens the anorectic. The vomiting that some individuals experience could be due to self-induced tactics or simply experiencing nausea after eating. Once the anorectic begins vomiting, she will usually resort to it for the duration of the illness.

Besides vomiting, the individual will usually reduce their liquid intake as well as their food intake. Others will substitute liquids for foods and then use diuretics to eliminate the water. Another means of reducing weight and eliminating food is through the use of laxatives. When the anorectic adds the techniques of bingeing and purging to her diet control plan she gives herself freedom to eat more without the consequence of weight gain. This leads to the binge/vomit/purge cycle of behavior and also leads to a devastating affect on her body. Whatever the symptoms are, as the disorder progresses, without treatment, the anorectic will eventually die (Romeo, 1986; Mash & Terdal, 1997; Ornstein, 1996).

Complications/Comorbidities

Wilson et al. (1996) listed the following as the most common medical complications of anorexia nervosa: emaciation, amenorrhea, dry, yellowish skin (due to hypercarotenemia), lanugo (fine, downy hair), sensitivity to cold, hypotension, and cardiovascular problems.

Complications of anorexia nervosa are primarily due to the effects of starvation. Most physical complications come as a result of the body's attempt to conserve energy and metabolic complications may be numerous. For example, hypokalemia is especially common in patients who vomit or take diuretics or laxatives and may eventually cause life-threatening arrhythmias and muscle cramping. In patients who vomit gastrointestinal complications and erosion of enamel on the teeth occurs. Cardiac problems, also fairly common, are the most frequent cause of death in patients with anorexia. Numerous other problems can occur as a result from a disruption of the hypothalamic-pituitary axis. (Hobbs & Johnson, 1996)

Comorbidities of anorexia nervosa are also numerous. Anorexia has been found to co-occur with substance abuse, especially in the binge-eating/purging type. Also, of all anxiety disorders, anorexia nervosa has been found to be most frequently linked to

Obsessive-Compulsive Disorder. Probably the most commonly cited comorbidity is depression which has been reported to co-occur with acute anorexia frequently, with prevalence rates ranging from 21 percent to 91 percent (Wilson et al., 1996). Kerwin and Berkowitz (1996) confirm these results and distinguish even more detail. They report that anorectics of the restricting subtype are more likely to have obsessive-compulsive personality disorders and those with the binge/purge subtype often exhibit borderline and antisocial personality traits and impulsive behavior.

Risk Factors

The National Institute of Nutrition has presented a table for the risk factors for developing an eating disorder.

Individual Factors

* Autonomy, identity and separation concerns
* Perceptual disturbances
* Weight preoccupation
* Cognitive disturbances
* Chronic medical illnesses (insulin-dependent diabetes)

Family Factors

* Inherited biological predisposition
    - -family history of eating disorders
    - -family history of alcoholism, affective illness
    - -family history of obesity (bulimia)
* Magnification of cultural factors
* Parent-child interactions leading to problems with autonomy and separation

Cultural Factors

* Pressures for thinness
* Pressures for performance

(NIN, 1989)

Rosin (1987) suggested variables which were found to be predictors of weight loss attempts among adolescent girls. They include: body dissatisfaction, high body weight,

depression, and social anxiety. Also, they suggested that adolescent girls who hold negative self-perceptions may be among those who are most vulnerable to social pressures to be thin.

Although these risk factors have been proposed by researchers, it is a common thought that a great deal of research needs to be continued if we are truly going to determine what risk factors separate a normal adolescent female from one who will develop anorexia nervosa.

Treatment

Anorexia nervosa is a disorder which eludes the effectiveness of treatment in many cases. There are no definite treatment programs that exist today that will guarantee a cure of the disorder. The reason for this lack of a solution is due to the simple fact that there is no confirmed etiology for the disorder. As research continues into the possible causes of anorexia, so do the methods for treatment and prevention.

Among the treatment programs and procedures currently in place, Hobbs and Johnson (1996) provide a detailed analysis of the general steps to follow when treating an anorectic individual. They suggest starting with a comprehensive history and physical examination of the individual to rule out psychiatric or medical disorders and to assess the medical complications of the illness. They provide the following table of essential information for the medical professional, a physician and/or psychologist or psychiatrist, to obtain.

Assessment of Eating Disorders

History

Eating Habits and rituals
Body Image
Weight minimum and maximum weights, desired weight
Menstrual Pattern
Use of laxatives, diuretics or diet pills

Exercise participation
Bingeing and purging behaviors
Substance Abuse, personality, mood and anxiety disorders, and suicidal thoughts
Past medical history
Family history of medical and psychiatric disorders

Physical examination

Mental status
Complete physical examination
Laboratory: complete blood count, electrolytes, blood urea nitrogen, creatinine, calcium, magnesium, phosphate, cholesterol, lipids, amylase, total protein, albumin, liver function tests, thyroid function tests, urinalysis, electrocardiogram
Vital signs, and standard weight and height

Once the diagnosis of anorexia nervosa is confirmed, the initial goal of treatment is to prevent death by starvation. The family should be provided with extensive amounts of information about the disorder and then work with the physician to negotiate the plan for treatment. At this time the patient should be told that the resumption of normal eating will decrease her preoccupation with food and the urge to binge, relieve fatigue and depression, and result in improved relationships with family and friends. If the patient is not severely emaciated, has had the illness for less than six months, has no serious medical complications, is accepting her illness and is motivated to change, and has supportive and cooperative family and friends, then a trial of outpatient treatment may be attempted. (Sesan, 1997)

The first step in the treatment process is correcting the starvation state. A goal weight should be set and the patient's weight should be measured once or twice a week in the office under standardized conditions. At this time the patient should be referred to a dietitian for nutritional counseling and to a psychiatrist or a psychologist trained in the treatment of eating disorders for counseling. A caloric intake to provide the individual with a weight gain of one to three pounds per week should be instituted and often a nutritional supplement may be added to augment this increase. During this process weight gain as well as electrolyte levels should be strictly monitored and the disturbed eating should be

addressed in specific counseling sessions. Mealtimes should not be a time when eating issues are confronted, instead they should be used for socialization. Also, a very important point is to engage the individual immediately following a meal to prevent purging. The family needs to work closely with the physician to help with the entire process and to determine the patient's progress and any complications. (Corn & Lane, 1997)

Unfortunately, outpatient treatment is not sufficient for some individuals with anorexia nervosa. Inpatient treatment is indicated under certain circumstances: weight loss exceeds 30 percent of ideal weight, patient is having suicidal thoughts, patient is abusing laxatives, diuretics or diet pills, or outpatient treatment has failed (Haller, 1992). Care of the anorectic patient in an inpatient unit is primarily overseen by a psychiatrist along with a treatment team comprising nurses, therapists and a dietitian. During this inpatient treatment, the family physician should maintain close contact and frequent communication with the treatment team and family.

An inpatient treatment program is most successful with a hospitalization of ten to twelve weeks in order to achieve maximum physical and psychological rehabilitation (Giannini, Newman, & Gold, 1990). In rare instances tube feeding is used, but usually a progression of caloric intake and increased meal sizes are sufficient. Before a patient is discharged they often have weekend home visits to expose the patient to everyday home life and to facilitate the patient's ability to deal with stressful situations. Even when the patient is discharged she should be involved in a regular follow-up program in the continuing months.

The drug of choice for the treatment of anorexia nervosa is food. Sometimes when depression is highly involved and is not alleviated with renourishment, antidepressants may be used. Psychotherapy begins when the diagnosis is established and should continue until the patient has returned to a normal life. Generally, psychotherapy is provided by professionals trained in the treatment of eating disorders. Behavior therapy is often used in

the treatment of anorexia nervosa using a system of positive and negative reinforcement based on weight gain and loss. Weight gain is rewarded with the attainment of desired activities such as participation in recreational activities, television privileges and home visits. Conversely, weight loss results in the loss of privileges or confinement to bed rest. Cognitive techniques tend to center around understanding and changing dysfunctional thinking and teaching alternative coping strategies (Yager, 1994).

Family therapy is strongly suggested, especially with younger patients, because anorexia nervosa is a disorder which effects more than just the individual. Anorexia is a disorder which affects the entire family and family counseling facilitates recovery in the individual by addressing problems in the family environment (Robin, Siegal, & Moye, 1995). Therapy often continues for years after return to a normal weight and, during this time, the family physician is often instrumental in ensuring that the patient's physical health does not regress. Bimonthly to monthly weighings and monitoring of electrolyte levels every six months aid in assessment of the patient's recovery.

Prognosis for anorexia nervosa is poor and the course of the illness varies for each individual diagnosed with the disorder (Smolak, Levine, & Striegal-Moore, 1996; Abraham & Llewellyn-Jones, 1987; Wolman, 1982). An individual may suffer from a single episode or several episodes of starvation, or the illness may be unremitting until death. Most commonly, patients have the illness for years and have recurrent regressions interspersed with periods of normal weight. Unfortunately, in some patients, death occurs as a result of starvation, electrolyte abnormalities or suicide. Mortality rates for anorexia vary from five to twenty percent with higher rates found with longer duration of the illness, extremely low weights, poor family support, purging behaviors and multiple relapses (HSU, 1992). Anorexia nervosa is a chronic illness and patients may take years to recover, undergoing several hospitalization and relapses. The family physician must develop a relationship of trust with the anorexic patient while avoiding manipulation by the

patient. Also, realistic expectations for the patient's recovery and appropriate referrals are essential in the treatment process (Hobbs & Johnson, 1996).

In summary, the foregoing discussion shows that anorexia nervosa is a complicated and complex disorder. In researching the diagnosis, risk factors, comorbidities and complications, and treatment of the illness a great deal of information can be obtained. Theories regarding the possible etiology of anorexia nervosa help explain why the disorder occurs. Although an extensive amount of information currently exists for each of the aspects of anorexia nervosa, researchers are still striving to determine the causes and risk factors of the illness in order to develop more effective prevention programs.

CHAPTER 3-ADOLESCENCE

Eating disorders most frequently begin during adolescence rather than in childhood or adulthood. Anorexia nervosa rarely occurs in prepubertal children but it increases dramatically after puberty, with the majority of cases beginning before the age of 25 (Smolak et al., 1996). As was indicated in the previous chapter, no single variable explains the onset of eating disorders, but research indicates that certain developmental transitions may help to explain the increased risk during adolescence (Wilson et al., 1996). Researchers have postulated many possible reasons for the development of eating disorders at this point in time in girls' lives. Early adolescence and late adolescence may constitute special risk periods for the development of eating disorders (Halmi, Casper, Eckert, Goldberg, & Davis, 1979; Wooley & Wooley, 1985). This suggests that adaptation to the events or developmental changes commonly associated with these transitions can take the form of eating disorders. Smolak and Levine (1996) have done extensive work about the transitional period of adolescents and the topic of eating disorders and have asserted that developmental transitions are times of special risk because they involve changes in molar (core or underlying) structures and in normative challenges and stressors, and that these transitions represent 'crossroads'.

Factors Which May Contribute to the Development of Eating Disorders

Along with the bodily changes that adolescents, especially girls, experience, other social factors can also contribute to the development of eating disorders. This is the time in a young girl's life in which her body is rapidly changing, social relationships are becoming of the utmost importance while family relationships are changing, and they are just learning how to deal with all of the chaos. This chapter will focus on the specific factors of

adolescence that may contribute to the development of eating disorders such as growth spurts, autonomy, sexual identity/peers, and modeling.

Growth Spurts

The physical changes that young women experience in adolescence have a drastic impact on their entire sense of self. Before adolescence, boys and girls resemble each other in physical appearance and size and the amount of social attention given to their physical differences is considerably less than during adolescence. Girls and boys have the same percentage of muscle and fat in their body composition and they are similar in their fat distribution and skeletal shape (Romeo, 1986). During adolescence, however, girls experience changes in their bodies that have profound effects on them.

Adolescent growth spurts tend to occur about two years earlier in girls than in boys, and girls tend to grow more rapidly just prior to their entry into puberty, between 10 and 12 years of age. This physical maturation manifests itself differently in girls than in boys. For boys it involves the development of muscle and lean tissue, while for girls it takes the form of increased fat tissue during this period, which moves them further away from the culture's lean physical ideal (Striegal-Moore, 1996). Adolescent girls are drastically aware of their bodily changes and feel the pressure of their consequences. "There are more social pressures on the adolescent girls to be fashionable and thin, and a greater social liability if she is overweight. The adolescent girl wants to minimize her shape. Many adolescent girls associate their pubertal changes with being fat and start dieting unnecessarily" (Romeo, 1986, 25).

Physical maturation leads to increased nutritional needs, which are, again, against society's pressure for a thin female body. Consequently, the teenage dieter sacrifices her nutritional needs as she seeks the socially valued thinner appearance. Onset of menarche and breast development also represent major factors in the adolescent female's changing

life. These two factors have also been found to be associated with increased dieting among seventh to tenth graders, independent of age (Attie & Brooks-Gunn, 1989). Adolescence and puberty are associated with the appearance of the individual's secondary sex characteristics. Girls notice an increase in fat distribution around their hips. They experience rapid changes in their height, weight, and general body shape. During this time of rapid physical changes, adolescents are preoccupied and extremely self-conscious about their body image. The task of integrating all of these changes into one's changing self-image may be especially difficult and can lead to dieting and stressful family situations.

Autonomy

In addition to adjusting to their rapid physiological changes, adolescents also need to master several psychological tasks as they progress toward maturity. Some psychological tasks hold particular relevance for the development of anorexia nervosa. These tasks include independence from their parents and establishing a female sexual identity (Jaffe, 1998; Berk, 1997; Wolman, 1982). Adolescents must face separation from their parents in their search for autonomy and independence and many struggle with conflicting emotions as they search for this autonomy.

One way for adolescent girls to demonstrate their independence and also to rebel against their parents is to alter their eating habits. Mealtime is often chosen as a way to loosen the family ties. Instead of eating with the family, adolescents choose to eat with their friends. As they strive for autonomy, adolescents shift their allegiance and dependence from their family to their peers. Now they increasingly identify with their own youth culture and reject traditional foods and diets. This rejection is a manifestation of their individuality.

Sexual Identity/Peers

Another psychological task for adolescents is the establishment of a sexual identity which, in turn, leads to intimate relationships and further separation from their parents. The development of secondary sex characteristics creates a sharp division between the sexes and adolescents face the necessity of establishing their respective male and female roles in society. At this time the emergence of new sexual tensions and impulses associated with the emergence of puberty and sexual hormones also need to be integrated into the adolescent's life.

The adolescent girl must integrate her physiological changes, menstruation, breast development, and fat distribution into a female sexual identity. The adolescent girl's pride and self-esteem is attached to her figure and face. The development of the sexuality of an adolescent can affect the family situation as well. The emergence of their adolescent daughter's sexuality is threatening to her parents (Katzman & Lee, 1997; Kaplan, 1993). This adds to the tension already in place from the girl trying to develop autonomy.

Adolescent girls are also dependent on their relationship with others in order to develop their female identity. The basis of their identity is interpersonal, and they rely on the opinions and reactions of others as they develop their female identity. Acceptance by peers is critically important for adolescent girls; they adhere strictly to peer group fashions, fads, and idols.

Modeling

This is where society plays a crucial role. Society provides the attributes and characteristics deemed representative of the female role. The adolescent girl internalizes these characteristics as she defines her role in society. For the contemporary adolescent this task is extremely difficult as the female role is constantly changing within our society (Berk, 1997; Romeo, 1986). The media is the main source for the projection of societal

expectations and sex roles. For this reason it is important to mention the media as a role in the development and reinforcement of attitudes, goals, and practices that contribute to disordered thinking.

Anorectic individuals quite often report that models in fashion magazines have been a source of motivation and guidance in their quest for slenderness and self-control. It is clear that marketing of images other than slenderness to populations other than girls and women can contribute to the spread of unhealthy behaviors. Linda Smolak and Michael Levine (1996) discuss these issues at great length and point out several specific issues which directly relate to anorexia nervosa.

The first of these issues is the glorification of slenderness through models appearing in magazines, magazine articles, and television. "There is ample amount of evidence that the prototypical female model appearing in fashion layouts and advertisements in women's magazines for the past 20 to 25 years is young (under 30 years old), tall, long-legged, and very slender" (Smolak & Levine, 1996, 238). Another issue of magazine importance is the fact that in 48 issues of women's magazines studied by Silverstein et al. in 1986 there were 63 ads for diet foods, 96 ads and articles about the body, 1,179 food ads, and 228 food articles, as compared with 1, 12, 15, and 10 in the men's magazines, respectively. Research has consistently demonstrated that the vast majority of female characters are thinner than the average American woman. Fewer than 10% of women in television shows and commercials are overweight.

The second set of issues discussed by Smolak and Levine is beauty and success. "In addition to glorifying slenderness and weigh loss, mass media may contribute to the development of eating disorders by emphasizing the importance of beauty and external appearance for girls and women over the substance of education, coping skills, assertion, and so forth" (1996, 241). This issue also pertains to magazines as well as television in reaching large numbers of women and girls.

The last, and probably the most important, issue to discuss is the exposure to the media that young adolescents and women have. There is no doubt that women's magazines and magazines that target teenage girls are readily available in many homes, libraries, bookstores, and offices. Televisions are even more accessible to individuals. Virtually every American household has at least one TV (Liebert & Sprafkin, 1988). In the average American household the TV is on, whether or not anyone is actually watching, for over seven hours per day (Harris, 1994). Over the course of a typical year, children and adolescents spend more time watching television than any other activity except sleeping (Smolak & Levine, 1996). With the constant development of technology has emerged another source of influence to adolescent girls, the internet. The computer has also become another way for young girls to be influenced by thin, pretty images of models.

Based on the information presented, it is apparent that girls and women of all ages are constantly reinforced that to be beautiful and successful you must look like the women in the magazine ads and on television. By showing women who are underweight as successful and attractive, young women learn at a very early age that this thin body is the only acceptable path for them to take. This media exposure, added to the pressures of adolescent development can combine to create some terrifying thoughts and actions in a young woman. Adolescence is a very impressionable and turbulent time in a young woman's life and there are a variety of factors that can and do contribute to the development of eating disorders such as anorexia nervosa.

There needs to be a concerted effort geared toward educating young female adolescents about the tremendous changes they will go through in adolescence and how best to cope with them. Emphasis should be placed on how to counter-act media-defined standards of female beauty. In a perfect world, the place for such education would be the home. Realistically, however, the school would be the ideal setting for numerous reasons. Students are in school for a great deal of their days and they are being taught rules about

life and development during that time. In school, children interact with individuals with whom they often compare themselves to. If we can educate them that being thin, being anorexic, is not healthy then maybe we could stop the negative body images and progression of life long eating problems. The next chapter describes and evaluates school-based primary prevention programs for anorexia nervosa.

CHAPTER 4- PRIMARY PREVENTION PROGRAMS

This chapter focuses on the primary prevention programs that have been implemented and evaluated and provides a detailed description and discussion of one of those programs. While reviewing the current programs, the authors, location, population, and effectiveness will be reported. With regards to the detailed program, a description of the program including its effectiveness on the population will be given.

Importance of Developing Primary Prevention Programs

In order to understand the importance of developing primary prevention programs for school, it is extremely valuable to first review the few programs that have been developed and evaluated for their effectiveness. Although there have been more programs developed than will be discussed here, the focus of this chapter will be on those programs that have been evaluated, which is a significantly less number. The reason for this decision was based on the idea that programs that have been evaluated provide considerable information which helps inform future research. Smolak, Levine, and Striegel-Moore (1996) provide a concise and informative review of the programs that have been developed so their work will be drawn upon extensively here.

Review of Current Programs

The importance of prevention programs for eating disorders, such as anorexia nervosa, has been emphasized by researchers, clinicians, and eating disorder theorists for many years (e.g., American College of Physicians, 1986; Crisp, 1979; Levine, 1987; Shisslak, Crago, Neal, & Swain, 1987). Unfortunately a few effective programs have been produced up to date. Of those developed, there have been programs which are

suitable for elementary, junior high, and high school students (Carney, 1986; Center for the Study of Anorexia and Bulimia, 1983; Giarrantano, 1991; Kennedy, 1990; Killen et al., 1993; Levine & Hill, 1991, Moreno & Thelen, 1993; National Eating Disorder Information Center, 1989; Paxton, 1993; Porter, Morell, & Moriarty, 1986; Rhyne-Winkler & Hubbard, 1994; Rosen, 1989; Shisslak, Crago, & Neal, 1990). Prevention programs for college-age individuals have been developed also (Huon, 1994; Sesan, 1989). In general, all of these programs include some, or all, of the following components: symptoms, signs, and health consequences, treatments, risk factors (low self-esteem, sociocultural factors, dieting, and family problems), healthy versus unhealthy weight regulation, and enhancement of life skills.

Evaluated Programs

As stated earlier, only a few of these programs have been evaluated. In this section a number of primary prevention programs that have been evaluated will be reviewed. To begin with, Porter et al. (1986) designed and evaluated a half-day program intended for pre- and early adolescents. It consisted of specially designed art, dance, and music workshops which were combined with an educational film. Indications of pre- and posttesting showed a significant program impact, especially among children who had scored above the mean and in the anorexic direction of the pretest.

Moriarty, Shore, and Maxim (1990) evaluated the primary prevention program that had been previously developed by Carney (1986). This program was designed as an eating disorder curriculum and used in ten Canadian elementary and high schools. Here again pre- and posttesting was used and revealed that students who had received the eating disorder curriculum showed positive changes in their knowledge and attitudes regarding eating disorders compared to those students who had not received the curriculum. Results very similar to these were obtained in an evaluation of a 9-week high school eating disorder

curriculum designed and implemented by Shisslak et al. (1990). Here the researchers included an eating disorder consultation component within the prevention program. In this study, several students showed positive results by initiating consultations and many others were referred by parents and/or teachers.

Moreno and Thelen (1993) examined the effectiveness of a short videotape and discussion group program focused on eating disorders. An experimental group consisting of 80 junior high school girls and a control group of 139 girls were pretested, assessed again 4 days later; and they were also reassessed 1 month after pretesting. The results showed that this prevention program was successful in changing the students' knowledge, attitudes, and behavioral intentions regarding dieting, weight preoccupation, and purging. Because of the variables used for this program, it will be the one discussed in detail later in this chapter.

Huon (1994) evaluated the effects of discussion groups which involved 24 college women. The groups in this program focused on discouraging dieting and developing a more positive body image. Again, pre-and posttesting was used and this program showed that women who were involved in groups in which strategies for change were discussed had a more positive body image following the discussion than they had before the group began. In addition, 42 percent of the women who participated in the strategies groups of this program reported that they were definitely less likely to go on a diet during the next 12 months; 58 percent reported much less weight preoccupation after participation in this program.

Neumark-Sztainer, Butler, and Palti (1995) conducted and evaluated a program in Jerusalem, Israel based on socio-cognitive principles of behavioral change. The goals of this program were to change knowledge, attitudes, and behaviors related to nutrition and weight control, improve body and self-image, and promote greater self-efficacy in dealing with social pressures regarding excessive eating and dieting. Three-hundred and forty-one

tenth grade girls from 16 high schools participated in a 10 session program. Follow-up assessments were conducted 6 months and 2 years after the study. The results showed that the program had moderate effects on nutrition knowledge and meal patterns and on preventing the onset of unhealthy dieting and bingeing behaviors.

The only long-term study of an eating disorder prevention curriculum is that of Killen et al. (1993). The curriculum designed for this program consisted of 18 lesson plans divided into three components: unhealthy weight regulation practices, healthy weight regulation practices, and development of coping skills to resist sociocultural pressures to diet. The population consisted of nine-hundred and ninety-five sixth- and seventh-grade girls in four middle schools. Evaluations were conducted before the curriculum was begun and at four intervals during the two years following the completion of the program. Results showed that there was a significant increase in knowledge about eating disorders in the experimental group.

In summary, the programs aimed at increasing knowledge about eating disorders were all successful in achieving this goal (i.e. Killen et al., 1993; Moreno & Thelen, 1993, Moriarty et al., 1990; Shisslak et al., 1990; Neumark-Sztainer et al., 1993). Programs that targeted changing attitudes about eating disorders were also successful (i.e. Huon, 1994; Moreno & Thelen, 1993; Moriarty et al., 1990; Neumark-Sztainer et al., 1993). In addition, programs aimed at changing behaviors or behavioral intentions were successful (i.e. Huon, 1994; Moreno & Thelen, 1993; Neumark-Sztainer et al., 1993).

Detailed Description of Moreno and Thelen's Program

The specific study that will now be described in detail is Moreno and Thelen's (1993) program. The purpose of this study, its methods, instruments, procedure, results, and discussion will be analyzed in detail. The purpose for selecting this particular study to

discuss was due to its encompassing of the three variables described thus far in this paper: preliminary prevention, adolescents, and school-based.

The purpose of the present study was to determine the effectiveness of an experimental program presented to junior high school students that focused on attitudes and knowledge about body weight, dieting, and purging as well as behavioral intentions to diet effectively. The researchers determined that since perceptions of body weight and radical means of weight control have been associated with eating disorders, this program should address these issues. Also of extreme importance was the fact that research has shown that many female adolescents are concerned about their body weight and they lack adequate knowledge and understanding of dysfunctional eating habits (Shisslak et al., 1987) With these variables in mind, the following school based prevention program was constructed, implemented, and evaluated by Moreno and Thelen in 1993.

Moreno and Thelen's program was designed to be a preliminary effort to influence subjects' knowledge, attitudes, and behavioral intentions concerning body weight and weight control. The program consisted of two studies that were conducted in the same schools, with different subjects, over two consecutive years. Subjects in the experimental group were shown a short videotape followed by a 30-minute discussion of that video. The subjects in the control group did not view a videotape or engage in a 30 minute discussion. In Study one, a female clinical psychology graduate student presented the video and then led the discussion afterwards. In the second study, the subjects' regular classroom teacher, who was also a female, presented the video and led the discussion. Study two was done to provide an assessment of the potential value of incorporating the experimental program into the curriculum.

Study One

Subjects and Method. Subjects in the first study were all female students in the Home Economics I classes in three predominantly middle-class, midwestern junior high

schools. Students in two of the schools were used to serve as the control group while students in the third school served as the experimental group. In total, there were four classes in the experimental group and eight in the control group. All individuals involved in the study were enrolled in the sewing section of Home Economics I. Originally there were 135 subjects in the control group and 82 in the experimental group, but due to incomplete data resulting from being assessed at three different times, as well as improper questionnaire completion, data from several subjects was discarded. The number of subjects in the control group used for data analysis was 74.

The subject in the experimental group were also assessed at three separate times, and, in addition, were also presented with the videotape and discussion. To eliminate the possibility of subjects intentionally being absent, they were not informed that the measure would be administered on three separate days. Of the original 82 subjects in the experimental group, 30 individuals resulted in usable data. This was due to subjects being absent for one or more of the administrations or the video.

For the first study, over half of the subjects were Caucasian (66 percent), 16.0 percent were Black, and 18 percent were of other ethnic origins. Subjects in the control group consisted of 60 percent Caucasian, 17.1 percent were Black, and 22.9 percent were of other ethnic origins. Lastly, in the experimental group, subjects consisted of 80 percent Caucasian, 13.3 percent were Black, and 6.7 percent were of other ethnic origins. Researchers performed a chi-square on ethnic origin in order to demonstrate comparable subject groups, and found no significant difference between the experimental and control groups. Also, for both groups there was no significant difference with regards to age, height, and weight.

Instruments. The videotape used for both studies was six and one-half minutes long and consisted of a conversation between two actresses portraying sisters in a bedroom.

One of the sisters was presented as high school age and the other was the same age as the subjects. The younger sister expresses being dissatisfied with her body and then the conversation is led by the older sister. She says that she wrote a paper on eating disorders and then discusses descriptions, prevalence, harmful physical effects of eating disorders, social/cultural attitudes toward thinness, a description of restrained eating and its effects, and suggestions for weight management and resisting peer pressure to diet. For this particular study the video was aimed at bulimia, but researchers discuss the use of it for anorexia or other eating disorders as well.

The General Background Questionnaire used consisted of items concerning the subjects' grade in school, age, birthdate, weight, ethnicity, and height. The Dependent Measure consisted of a 23-item questionnaire that assessed behavioral intentions to diet, attitudes toward weight control and dieting, and knowledge about the physiological effects of bingeing and purging. All items were on a seven-point Likert scale and were written due to lack of standardized measures available which assessed the specific variables of interest to these researchers. The Validation Measure included five true-false questions about descriptive information which attempted to assess the degree to which the experimental subjects had been attentive to the video. It was scored by counting the number of questions that were answered correctly by the subjects (perfect was a score of five).

Procedure. For this study all assessments were conducted with Home Economics I classes by the regular teacher during normal class time. The video was presented and the discussion was led by a 23-year-old female graduate student. For Time 1 the General Background Questionnaire and the Dependent Measure were administered to the students in both the experimental and control groups. To assure confidentiality, subjects were asked to write the date, school, grade, period, birthdate, sex, and age on their questionnaire, but not

their name. This allowed the researchers the ability to identify each subject across time and protect for confidentiality.

The experimental group was shown the videotape two days after the subjects completed the previously stated measures. After the videotape was presented, the subjects were then asked five questions regarding the video to make sure that they were being attentive to the intervention. Following this validation measure, the graduate student then led a 30-minute discussion which highlighted the main points of the video. In order to ensure that the discussion reviewed all of the points presented in the video, the graduate student used a checklist. Next, two days after the showing of the videotape, the Dependent Measure was administered for the second time to subjects both in the experimental and control groups (Time 2). Lastly, one month after Time 2, all subject were then given the Dependent Measure once again.

Study two

Subjects and Method. Subjects in Study two were also female students in the same schools and Home Economics classes as in Study one. Students from the same two schools used in Study one made up the control group and students from the same school used in Study one were then used in the experimental group. For this study, there were six classes in the experimental group and eight classes in the control group, and all were in the sewing section of the Home Economics classes.

As in the first study, subjects in the control group were assessed at three separate times and not informed when this would be occurring. Usable data for 65 students in the control group was obtained, due to the same reasoning for discarding data as in the first study. Experimental group subjects were also assessed at three separate times, and in addition, were presented with the discussion and videotape. Due to missing of one or more

of these sessions, several were discarded, and left 50 usable subjects for the experimental group.

Over half of all the subjects in Study 2 were Caucasian (73.0 percent), 19.6 percent were Black, and 7.5 percent were of other ethnic origins. In the experimental group there were 86.9 percent Caucasian, 11.5 percent Black, and 1.6 percent other ethnic origins subjects. Lastly, in the control group 63.2 percent were White, 25.3 percent were Black, and 11.4 percent were of other ethnic origins. A chi-square done on data for study two showed a significant difference between the control and experimental groups, where the control group contained a smaller percentage of Whites, and a higher percentage of Blacks and subjects of other ethnic origins.

Instruments. The instruments used for the second study were identical to those used for the first study. There were no changes in either the videotape or the background questionnaire used for this study.

Procedure. The procedures used for Study two were exactly the same as those used in the first study, with one exception. In the second study instead of using a graduate student, the regular Home Economics I teacher presented the videotape and led the discussion. The individual who conducted Study one trained the teacher by reviewing the checklist and video. Also, this teacher was present when the study was conducted one year earlier.

Results

For this study analyses were performed only on those subjects who had complete data available. In this section results will be presented in the following manner: (a) principal components factor analysis of the Dependent Measure, (b) Study one results, and

(c) Study two results. Moreno and Thelen discuss these results in extreme detail, providing tables as needed, however, a more brief summary of the results will be presented here.

A principal components factor analysis was performed, by the researchers, on the 23-item Dependent Measure taken at Time 1 in order to define the main dimensions that the questionnaire tapped. In order to determine the reliability for each factor containing more than one item, a coefficient alpha was performed on each factor also.

This principal components factor analysis resulted in six factors. Factor 1, Purge Attitude, included six questions about purging and behavioral intentions to purge as a weight reduction method. The coefficient alpha was 0.86 for this factor. Factor 2, Diet, included six questions related to attitudes about dieting and the physical effects of dieting. Its coefficient alpha was 0.85. Factor 3, Weight, included five questions related to concerns about weight and behavioral intentions to radically diet to lose weight. Coefficient alpha for this factor was 0.42. Lastly, Factor 6, which was Small, consisted of one question which dealt with the behavioral intention to lose weight by making small changes in the amount of food a person intakes. A higher mean indicated a more positive or desirable responses on this factor.

The Study one results will now be presented. The Validation Measure resulted in 28 subjects who received a score of five and two with scores of four. None received scores lower than this. A Multivariate Analysis of Variance was conducted by the researchers due to the fact that randomization of classes could not be accomplished. It was conducted on the classes at Time 1 in both the control and experimental groups to determine if any significant differences were present. Results here indicated that there were no significant differences among the classes in the experimental and control groups. Next a Multivariate Analyses of Covariance (2 group x 2 time) was performed on the six factors.

Results showed a significant group effect $F(6, 89) = 16.84$ $p < 0.001$; but no significant time effects, $F(6, 92) = 1.02$ $p < 0.42$ or interaction effects, $F(6, 92) = 1.05$ $p < 0.40$.

In order for the researchers to adjust for the differences between groups on the Dependent Measure at Time 1, they performed an analyses of covariance by using Time 1 scores as the covariate. Therefore, the researchers performed 2 (experimental and control groups) x 2 (Time 2 and Time 3) ANCOVAs on the adjusted means for each of the six factors. For each of these factors, the ANCOVA revealed a significant main effect for group, no significant effect for time, and no significant Group x Time Interaction. The experimental group showed more positive attitudes, more knowledge, and healthier behavioral intentions about dieting than did the control group on all six factors. Also, the lack of a Group x Time interaction effect suggests that the effects of the experimental program were sustained at the one-month follow-up. However, the experimental group mean did decline from Time 2 to Time 3 on five of the six factors. The factors which showed the greatest effect from the experimental program were Weight, Diet, and Purge Information. Purge Attitude, Exercise, and Small did show significant effects, but were not as strongly changed by the program.

The Results for Study two will be reviewed now. The Validation Measure showed results as follows: 45 subjects with a score of five, four with a score of four, and one with a score of three. As in Study one a Multivariate Analysis of Variance was conducted and resulted in no significant differences among the classes in the control or experimental groups. A 2 (group) x 2 (time) MANCOVA was performed, using the Time 1 measure as the covariate, on each of the six factors. This resulted in a significant group effect, $F(6, 95) = 16.63$, $p < 0.001$, however no significant time effects, $F(6, 90) = 1.88$ $p < 0.09$ or interaction effects, $F(6, 90) = 0.58$, $p < 0.75$ were obtained.

As in Study one ANCOVAs were performed on each of the six factors and results were very similar. For each of the six factors, there was a significant main effect for

group, no significant effect for time, and no significant group x time interaction effect. The experimental group, as compared to the control group, showed changes in the desired direction on all six factors. Also, lack of significant interaction effects suggested that the effects were sustained at the one-month follow-up. Lastly, the factors most affected by the experimental program in Study one were the same in Study two.

Discussion

The purpose of Moreno and Thelen's 1993 study was to determine the effectiveness of an experimental program that focused on influencing attitudes and knowledge about body weight and eating, as well as behavioral intentions to diet effectively. Researchers found that this program's format was well received by the school officials and students and because results from Study two were consistent with those from Study one, they suggest that it can be used by the regular classroom teacher and incorporated into a regular classroom.

The experimental and control groups in this study differed significantly on all six factors, however, three of these were stronger than the others. In this discussion, those will be focused on first. This program had a strong effect on the Diet Factor; after the program, subjects in the experimental group indicated that they did not see strict dieting as a good way to control their weight. They also revealed more knowledge about the undesirable physical effects of dieting. The Weight factor is very similar to the Diet factor because it primarily pertains to dieting. These results indicate that the experimental group showed fewer concerns about their body weight and a reduced likelihood that they would radically diet in order to lose weight. The third factor, Purge Information, is clearly different from the first two. The experimental subjects here appeared to have acquired a considerable amount of information regarding the possible harmful effects of purging as a means of weight control.

As mentioned before, the following three factors showed significant differences, but were somewhat weaker than the previous three. The weak effects on Purge Attitude may be due to strong negative attitudes before the program began (at Time 1). The Exercise factor contained only two questions and here the experimental group subjects showed that they were less likely to be concerned with their weight and more likely to exercise as a means of weight control. Lastly, Small, the final factor, may have shown weak effects due to the fact that it contained only one question or because the means at pretesting were high. Still, experimental subjects showed that they were more likely to indicate that they would make small changes in their eating habits in order to lose weight. The last important fact to address is the lack of Group x Time interactions, suggesting a sustained effect at the one-month follow-up. The researchers mention that these effects are not likely to be sustained for further lengths of time without additional initiatives.

To conclude the discussion of this program, there are four important issues that the researchers suggested for any further research in this area. The first is that it is important to follow the target population so that you can determine whether changes are made across time. For this experiment, they suggested that subjects be exposed to material at "booster" sessions, in order to maintain the one-month effects and decrease the chance that the increased knowledge and changed attitudes will be "lost" over time.

Secondly, they suggest that the population used be children at even younger ages than was used for this study. This suggestion echoes the sentiments and results of the other evaluated studies presented earlier. They suggest that this is done because targeting younger populations may result in presentation of healthy attitudes before unhealthy attitudes, which are harder to change, are developed. Thirdly, the researchers suggest using peers as discussion leaders in order to maximize the likelihood that these efforts will be successful. Lastly, they address the topic of future research. They suggest that it should assess behaviors in order to determine whether changed attitudes and behavioral

intentions have translated into actual behaviors. Also, peer and parental influences on attitudes and behavioral intentions should be addressed.

To summarize, the study described in detail here determined that adolescents responded favorably to a program that focused on attitudes and knowledge about weight, purging, and dieting, as well as behavioral intentions to diet effectively. Study two showed that programs such as this one can be incorporated into the regular classroom by the students normal teacher with success. Future efforts may need to focus on younger populations, use peer discussion leaders, and determine if behavioral intentions actually translate into behaviors.

The program developed by Moreno and Thelen had positive results on the subjects used in this study, it also, however, leaves room for some improvements. This program had positive effects on the attitudes of girls towards eating disorders, which is the goal of a primary prevention program, but we are left not knowing how those attitudes affect the subjects' behaviors. Also, the format of the video is constructed using two sisters where it might have been more beneficial to use peers so you can address peer influences. A very important issue missing in this program is the topic of media influences which are so influential to adolescents. The video tape used could be modified to use two peers addressing the unrealistic images portrayed by the media. This could make the program more well-rounded, tackling several issues at one time.

This program completed the goal which it set out to do, to change the attitudes of individuals toward eating disorders. For adolescents this is a very important issue due to the fact that many opinions and attitudes are being formed at this time. Because this is such a short program it is questionable whether the results would extend over a longer period of time and therefore it would be beneficial to combine this program at younger ages with more complex programs during later adolescence. Over-all, this is a positive program which should be implemented in more schools to tackle the problem of eating disorders.

CHAPTER 5- CONCLUSION AND APPLICATION TO SCHOOL PSYCHOLOGY

This chapter concludes and summarizes the information that has been presented in the previous four chapters. Through review of this information it will be evident why this topic is so imperative to the field of education and specifically to school psychologists. Implications for the field of school psychology will be offered at the end of this chapter.

Synthesis and Summary

Anorexia nervosa is a disease which is growing in our society and which affects up to seven percent of females today. The increase in the prevalence of this disorder makes it an extremely relevant and serious issue for all individuals who work with females of any age, especially adolescence when the disorder is most likely to occur. Females in today's society are influenced my various media sources which reinforce the idea that being extremely thin is attractive. When young girls enter into adolescence they are experiencing an overwhelming amount of changes in their lives. These changes, combined with media influences can lead to devastating eating patterns and behaviors. This is the time when adults and professionals involved in a young girl's life can help the most.

Numerous research studies about anorexia nervosa were reviewed in this paper. The prevalence, definition, components, risk factors, and progression of the disorder were all given specific attention. A thorough review of the history of anorexia nervosa and the theories used to analyze its etiology were given in the second chapter. Each theory takes a different position with regards to why an individual develops the disease, and these were also reviewed. After explaining the disease and the multi-dimensional factors surrounding anorexia nervosa, the specific factors during the period of adolescence which can lead to disordered eating were discussed. Once all of the background information had been

presented, then we could focus on the disturbing fact that there are very little prevention programs for this deadly disorder.

Many researchers addressed the importance of prevention. Despite its importance, very few effective and evaluated primary prevention programs have been developed. Virtually every researcher who has worked in the area of eating disorders has expressed the concern of stopping the disturbed thoughts and patterns of eating before they can develop into disorders such as anorexia nervosa. If schools can be made aware of the increasing prevalence of this disorder, they can take an active role in helping to prevent it. There are primary prevention programs that have been evaluated, although few, that can be incorporated into regular school curriculum to help stop the disordered and disturbed thoughts and images of what is attractive. This is our main hope and focus as professionals working with students of all ages. With the poor prognosis and extremely low rate of cured anorectic individuals, it should be evident through the facts presented in this paper, that prevention is the key. Children in school are the perfect population for prevention programs which can help them. This is where school psychologists can play a crucial role.

Application to School Psychology

Few individuals know the devastating facts about eating disorders and their increasing prevalence in today's society. Teachers, administrators, counselors, and all school professionals are expected to know a limitless amount of information about so many topics, that it is unfair to expect them to know the detailed facts about anorexia nervosa as well. Because of the tight network of professionals at work in a school system it would be fairly simple to incorporate this new knowledge, however. School psychologists enter into schools with specific knowledge expected of their profession, just as speech pathologists and audiologist do. A school psychologist who is aware of the disturbing facts of

anorexia nervosa can bring this knowledge to the other professionals in a school system. They can help by introducing prevention programs that can be implemented in a regular classroom and helping to train the teacher who would present the program. Also, in the progressive movement of school psychology into the problem solving arena, a school psychologist armed with the facts on eating disorders can add valuable resources to a problem solving team.

Another way that school psychologists can help is through having these facts and recognizing females who might be further along in the progression of the disease than a primary prevention program would help. School psychologists are often mediators/fascilitators between the school, the parents, the students, and various community resources and this is a situation which would benefit greatly from that relationship. By being aware of warning sings and the progression of the disorder school psychologists can refer individuals to clinics or doctors who can help treat and stop it from getting worse.

Throughout this paper, the disturbing facts on eating disorders and how to best deal with these factors have been presented. Now, after careful review of the information and research presented, professionals need to continue with development of school-based primary prevention programs. School personnel, especially school psychologists can take a personal stake in helping young women who might be on the deadly track of developing an eating disorder like anorexia nervosa.

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